

REMARKS

Claims 9, 11-13, 37 and 41-45 are pending in the application. Claims 9 and 37 have been amended. Claim 40 has been cancelled without prejudice or disclaimer. Claim 45 is newly presented. Reconsideration of this application is respectfully requested.

The Office Action rejects claims 9, 11-13, 37 and 40-44 under the second paragraph of 35 U.S.C. 112 as indefinite. This rejection is moot as to claim 40, which has been cancelled.

This rejection is respectfully traversed. The Examiner questions "what does the photo-resist or UV treatment or ridge and fringe field method have to do with a first ion beam bombardment and a second ion beam bombardment to selectively align said domains in first and second directions?" The masks are used to selectively align the domains in different directions using the first and second ion beam bombardments, which have different directions with respect to the dry deposited layers. See Figs. 1-5, 14a and 14b, page 14, line 6, to page 16, line 21. Claims 9 and 37 have been amended by deleting "UV treatment or ridge and fringe field method". It is submitted that the amended independent claims 11 and 37 are in full compliance with the second paragraph of 35 U.S.C. 112. Accordingly, it is submitted that the rejection of claims 9, 11-13, 37 and 41-44 under the second paragraph of 35 U.S.C. 112 is obviated by the amendment and should be withdrawn.

The Office Action rejects claims 9, 11-13 and 37 under 35 U.S.C 103(a) as unpatentable over U.S. Patent No. 6,665,036 to Oh et al., hereafter Oh, in view of U.S. Patent No. 6,111,627 to Kim et al., hereafter Kim, U.S. Patent No. 5,995,186 to Hiroshi, hereafter Hiroshi, and U.S. Patent No. 6,061,114 to Callegari et al., hereafter Callegari.

This rejection is respectfully traversed. Independent claims 9 and 37 have been amended to recite:

"wherein each of said first dry deposited layer and said second dry deposited layer is divided into a plurality of pixels each having a boundary and at least two domains;

wherein said dry deposited layers are exposed to at least a first ion beam bombardment and a second ion beam bombardment to selectively align said domains in first and second directions, respectively, using a mask selected from the group consisting of: mechanical mask and photo-resist mask;

wherein a direction of said first ion beam bombardment with respect to said dry deposited layers is different than a direction of said second ion beam bombardment with respect to said dry deposited layers".

The Examiner contends at page 6 of the Office Action that in Callegari "each of the dry deposited layers is obtained by a mechanical mask 966". However, amended claims 9 and 37 recite that the "dry deposited layers are exposed to at least a first ion beam bombardment and a second ion beam bombardment to selectively align said domains in first and second directions, respectively, using a mask selected from the group consisting of: mechanical mask and photo-resist mask". Callegari's mask 966 covers the surrounding substrate and has nothing to do with first and second ion beam bombardments that "selectively align said domains in first and second directions".

The Examiner further notes at page 6 of the Office Action that Callegari also discloses that a "mask with features etched into it can be used to selectively align a local area, thus leading to fabrication of domains of alignment", citing column 6, lines 24-27. However, This citation does not teach that "a direction of said first ion beam bombardment with respect to said dry deposited layers is different than a direction of said second ion beam bombardment with respect to

said dry deposited layers", as recited in amended claims 9 and 37. Therefore, Callegari and the combination of Oh, Kim, Hiroshi and Callegari lack this recital.

The Office Action provides no motivation for one skilled in the art to combine Oh with Kim, Hiroshi and Callegari. In fact this suggested combination is improperly based on the hindsight of Applicants' disclosure. Such hindsight reconstruction of the art cannot be the basis of a rejection under 35 U.S.C. 103. The prior art itself must suggest that modification or provide the reason or motivation for making such modification. In re Laskowski, 871 F.2d 115, 117, 10 USPQ 2d 1397, 1398-1399 (CAFC, 1989). "The invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made." Sensonics Inc. v. Aerosonic Corp. 38 USPQ 2d 1551, 1554 (CAFC, 1996), citing Interconnect Planning Corp. v. Feil, 774 F. 2d 1132, 1138, 227 USPQ 543, 547 (CAFC, 1985).

For the reasons set forth above, independent claims 9 and 37 and dependent claims 11-13 are unobvious over the combination of Oh, Kim, Hiroshi and Callegari.

For the reasons set forth above, it is submitted that the rejection of claims 9, 11-13 and 37 under 35 U.S.C. 103(a) is obviated by the amendment and should be withdrawn.

The Office Action rejects claims 40-44 under 35 U.S.C 103(a) as unpatentable over Oh, Kim, Hiroshi and Callegari as applied to claims 9, 11-13, 13 and 40 and further in view of U.S. Patent No. 6,124,914 to Chaudhari et al., hereafter Chaudhari.

This rejection is moot as to claim 40, which has been canceled.

This rejection is respectfully traversed for the same reason set forth in the discussion of amended independent claims 9 and 37, from which claims 41-44 depend. That is, the combination of Oh, Kim, Hiroshi and Callegari lacks a recital of amended independent claims 9 and 37. Callegari 914, which was cited for a different reason, does not provide the deficiency of the combination of Oh, Kim, Hiroshi and Callegari. Therefore, the combination of Oh, Kim, Hiroshi, Callegari and Callegari 914 also lacks the recital of amended independent claims 9 and 37. For the reasons set forth above, claims 41-43 are unobvious over the combination of Oh, Kim, Hiroshi, Callegari and Callegari 914.

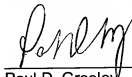
For the reasons set forth above, it is submitted that the rejection of claims 41-43 under 35 U.S.C. 103(a) is obviated by the amendment and should be withdrawn.

Newly presented claim 45 recites the ultra-violet alignment version of alignment, which was deleted from claim 9. Support for the ultra-violet alignment version is found in Fig. 7 and page 18, line 27 to page 20, line 10. None of the applied references disclose the ultra-violet and ion bombardment to produce domain areas with first and second different pre-tilt angles as claimed. Accordingly, new claim 45 is patentably distinct from the applied references.

It is respectfully requested for the reasons set forth above that the rejections under 35 U.S.C. 112 and 35 U.S.C. 103(a) be withdrawn, that claims 9, 11-13, 37 and 41-45 be allowed and that this application be passed to issue.

Respectfully Submitted,

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